

The data contained here include electron and proton particle fluxes from the LANL/GEO SOPA and MPA instruments (spanning energy ranges from eV to MeV). All of the files are JSON-headed ASCII files. Each file starts with an extensive JSON header used to describe the contents of the file (energies, units, etc.) Below the header, each row contains data for one time sample. The nominal time resolution is 10s for SOPA files and 86s for MPA files. The MPA files also include a full set of moments derived from the particle distributions. More detailed information on the data-sets can be obtained from the following references;

1. Thomsen, M. F. et al., Calculation of Moments from Measurements by the Los Alamos Magnetospheric Plasma Analyzer, Los Alamos Technical Report, LA-13566-MS, May 1999. Available online at: <http://www.osti.gov/scitech/biblio/8188>  
This document describes methodology for computing moments from MPA. The moments included here use a slightly improved algorithm which allows the full ion data to be used (all prior published MPA moments utilized only ½ of the available ion flux data.)
2. Belian, R. D., et al., High-Z energetic particles at geosynchronous orbit during the great solar proton event series of October 1989, J. Geophys. Res., 97, No. A11, 16897-16906, Nov. 1992.

A number of problems and glitches are known to exist in these data-sets. Failure to fully recognize and understand these known issues can potentially lead to incorrect results and conclusions. Users are strongly advised to contact the PI (M. G. Henderson: [mghenderson@lanl.gov](mailto:mghenderson@lanl.gov)) for guidance on its proper use and interpretation.

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